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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,161	10/16/2001	Taizou Tanaka	NEC N01293	7172

7590 07/11/2005

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EXAMINER
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GUHARAY, KARABI

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 07/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/981,161	TANAKA, TAIZOU	
	Examiner	Art Unit	
	Karabi Guharay	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2,3 and 5-14 is/are pending in the application.
- 4a) Of the above claim(s) 7-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2 and 5 is/are rejected.
- 7) ☒ Claim(s) 3 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Applicant's argument, filed on 4/26/05 has been considered and entered.

***Claim Objections***

Claims 3 & 6 are objected to because of the following informalities:

Claim 3 recites "any cathode formed on a second cathode and afterwards".

However, in order to avoid confusion, since applicant recites cathode is made of plurality of layers, and applicant meant "any layer of cathode" by the term "any cathode", thus "any cathode" should be changed to "any layer of cathode" and further, instead of "on second cathode" it should be "on the first metallic cathode", since this is the layer in contact with organic layer and subsequent layers are formed. So it should read as "any layer of cathode formed on the first metallic cathode and afterwards being not in contact with said organic layer". Appropriate corrections are required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guha et al. (US 5739545).

Regarding claim 2, Guha et al. disclose an organic EL device comprising an anode (34 of Fig 2), an organic layer (36) containing at least one organic light emitting layer (Alq 3 layer) and a cathode (38, & 40) wherein the cathode has a first metallic layer (thin metal layer 38), and a second cathode (transparent cathode 40) and between

Art Unit: 2879

organic layer 36 and the first cathode 38, oxygen is contained in the interface since Guha et al. teaches ALQ3 as the organic material which contains oxygen atom in the chemical structure, thus oxygen is present in the interface.

Though Guha et al. does not disclose a cap, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include a cap in the OLED of Guha et al. in order to protect the device from environment, since it is well known that organic layers are susceptible to moisture present in the atmosphere.

Claims 2 & 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa et al. (JP 09-232079).

Regarding claim 2, Hosokawa et al. disclose an organic EL device comprising an anode, an organic layer containing at least one organic light emitting layer and a cathode, wherein the cathode has two layers a first metallic layer, and a second metallic layer (see paragraph 0021 of English Translation) and the metal cathode contained oxygen in the interface between organic layer and the cathode (see English abstract, and paragraph 0036).

Though Hosokawa et al. does not disclose a cap, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include a cap in the OLED of Hosokawa et al. in order to protect the device from environment, since it is well known that organic layers are susceptible to moisture present in the atmosphere.

Regarding claim 5, Hosokawa et al. disclose that the film thickness of the first cathode is between 20 nm -100nm (see English Abstract).

***Allowable Subject Matter***

Claims 3 & 6 would be allowable if rewritten or amended to overcome the objections, set forth in this Office action.

***Response to Arguments***

Applicant's arguments filed on 4/26/05 have been fully considered but they are not persuasive.

Regarding prior art (Guha et al.) applicant contends that Prior art does not contain the features such as a first metallic cathode and a second cathode and oxygen contained in an interface between organic layer and the first cathode. Applicant respectfully disagrees.

Guha et al. clearly shows one first metallic cathode and a second cathode. Further since organic layer is made of ALQ which contains oxygen in the composition, thus interface which means common surface between first electrode and organic layer contains oxygen, though it is not explicit, it is inherent for the material used by Guha et al. Further applicant contends that ALQ is not an insulator, examiner agrees, however, claim 2 does not call for an insulator layer.

Applicant's arguments, see Remarks, page 3, filed 4/26/05, with respect to claims 3 & 6 have been fully considered and are persuasive. The rejection of claims 3 & 6 with respect to prior art of Hosokawa, presented in previous action, has been withdrawn.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

### ***Contact Information***

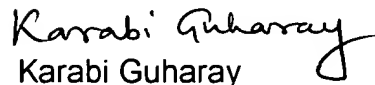
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (571) 272-2452. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For

Art Unit: 2879

more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Karabi Guharay  
Patent Examiner  
Art Unit 2879